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umbra on the disk. The Moon was, however, low and the night misty. The occultation of *ι Tauri* was seen at about the time given for it, but the "boiling" of the Moon's limb rendered any time observation valueless. Five photographs were taken, with the 6″ Equatoreal, of the gradual passing-off of the shadow, and I present with this paper prints from the enlargements. There should have been six, but one image was by mistake duplicated. The sixth place is filled by a photograph of the Moon showing the ordinary appearance of its bright edge.

Observatory, Guildown:
1882, *January* 24.

Observations of Comet III. 1881, *made at Windsor, New South Wales.* By John Tebbutt, Esq.

This comet was very difficult to observe. I detected it while sweeping for comets with a $3\frac{1}{4}$-inch Refractor on the evening of September 17. It was then invisible to the unassisted eye, and presented the appearance of an oval nebula, with a very gradual condensation towards the centre. On the evening of the 19th its aspect was greatly changed. It was the only evening on which there was anything like a central condensation with tolerably defined limits. There were also rudiments of a tail. From this date the comet became rapidly fainter, and during the last few days of its visibility it could be observed only by looking obliquely into the telescope. At no time would it bear a field illumination sufficiently strong to exhibit the spider lines of the filar micrometer. I was therefore compelled to employ the ring micrometer on the $4\frac{1}{2}$-inch telescope. The differential North Polar Distances for September 17, 18, 19, 30, and October 14, are unsatisfactory, owing to the near approach of the objects to the ring's centre. The mean places of the stars of comparison, where taken from the Washington Catalogues for 1872 and 1874, and the Sydney Catalogue for 1878, have been brought up to 1881·0 by means of the catalogue precessions. In all other cases the total precessions to 1881·0 have been derived from the annual precessions calculated for the mean dates by means of Peters's elements. Proper motion has been applied to the places of stars Nos. 11 and 14 only. For the parallax factors p denotes the corrections in seconds of time and arc for the Right Ascension and North Polar Distance respectively, and Δ the comet's distance from the Earth. The equatoreal horizontal parallax of the Sun has been assumed 8″·85.

I may add that with the help of M. Backlund's Ephemeris, received from St. Petersburg, I have sought for Encke's Comet,

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but in vain. When the comet was sufficiently south, and removed from the morning twilight, it was considerably beyond the grasp of my telescope.

Apparent Places of Comet III. 1881.

Windsor Mean Time 1881.	R.A.	Log (*p*Δ)	N.P.D.	Log (*p*Δ)	No. of Comps.	Comp. Star.
d h m s	h m s	+	° ′ ″	+		
Sept. 17 7 59 12	14 26 5·95	9·6994	104 44 41·9	0·6411	3	1
17 8 23 14	14 26 7·25	9·7052	—	—	7	2
17 8 42 22	14 26 8·50	9·7063	—	—	3	1
18 7 15 56	14 27 40·25	9·6797	105 36 3·0	0·6015	2	3
18 8 6 50	14 27 43·78	9·7041	—	—	3	3
19 7 26 20	14 29 13·20	9·6898	106 26 9·5	0·6075	7	4
20 7 27 2	14 30 40·05	9·6935	107 13 32·1	0·6055	8	5
26 7 53 31	14 37 55·65	9·7199	111 9 31·9	0·6309	7	6
29 7 43 28	14 40 53·28	9·7245	112 44 26·9	0·6222	5	7
29 8 13 41	14 40 54·14	9·7268	—	—	4	8
30 7 55 15	14 41 48·24	9·7282	113 13 39·8	0·6391	4	9
Oct. 1 7 49 25	14 42 41·92	9·7294	113 41 19·5	0·6337	5	10
2 7 38 3	14 43 34·70	9·7298	114 8 7·6	0·6206	7	11
3 7 55 41	14 44 24·82	9·7330	114 34 15·9	0·6467	5	12
4 7 33 38	14 45 13·82	9·7330	114 58 59·9	0·6191	2	13
5 7 44 51	14 46 3·28	9·7360	115 23 50·8	0·6374	5	14
8 7 33 9	14 48 22·99	9·7399	116 31 24·0	0·6297	3	15
12 7 53 59	14 51 19·80	9·7424	117 54 5·5	0·6732	3	16
12 7 53 59	14 51 19·85	9·7424	—	—	3	17
14 7 46 22	14 52 45·80	9·7453	118 32 31·3	0·6699	3	18
15 7 34 33	14 53 24·94	9·7481	118 50 42·6	0·6565	4	18

Mean Places of the Comparison Stars for 1881·0, *with the Reductions to the Apparent Places for the Dates of Observation.*

Comp. Star.	Mean R.A.	Reduction. +	Mean N.P.D.	Reduction. +	Authority for Star's Mean Place.
	h m s	s	° ′ ″	″	
1	14 23 43·65	2·50	104 43 11·0	11·1	Lalande, 26453.
2	14 22 42·40	2·49	104 51 29·2	11·2	Lalande, 26425.
3	14 17 26·17	2·47	105 33 34·4	11·5	Arg. Oeltzen. S. Z. 13587 and 8.
4	14 27 28·95	2·52	106 17 42·5	11·2	Arg. Oeltzen. S. Z. 13727.
5	14 32 46·15	2·55	107 22 17·6	11·2	Arg. Oeltzen. S. Z. 13793, 4, 5, and 6.

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Comp. Star.	Mean R.A.	Reduction. +	Mean N.P.D.	Reduction. +	Authority for Star's Mean Place.
	h m s	s	° ′ ″	″	
6	14 33 6·50	2·55	111 9 34·8	11·7	Arg. Oeltzen. S. Z. 13801.
7	14 35 34·22	2·55	112 54 56·5	11·7	Arg. Oeltzen. S. Z. 13848, 49 and 50.
8	14 39 16·99	2·57	112 38 50·1	11·5	Arg. Oeltzen. S. Z. 13909.
9	14 44 22·72	2·60	113 21 53·7	11·4	Arg. Oeltzen. S. Z. 13987, and 9.
10	14 47 0·80	2·60	113 29 11·3	11·2	Wash. Gen. Cat. 1860, 6118.
11	14 47 25·68	2·61	114 9 15·7	11·3	Wash. Gen. Cat. 1860, 6123.
12	14 37 44·49	2·56	114 32 36·4	11·6	Arg. Oeltzen. S. Z. 13885.
13	14 41 35·10	2·58	114 59 42·9	11·5	Wash. Gen. Cat. 1860, 6086.
14	14 40 48·09	2·57	115 35 17·1	11·6	Wash. Gen. Cat. 1860, 6082, and Sydney Cat. 1878, 170.
15	14 49 59·44	2·61	116 19 10·4	11·1	Wash. Gen. Cat. 1860, 6133.
16	14 46 43·46	2·60	117 55 3·4	11·1	Wash. Gen. Cat. 1860, 6117.
17	14 47 17·90	2·60	117 51 39·6	11·1	Wash. Gen. Cat. 1860, 6121.
18	14 50 7·83	2·62	118 40 30·8	11·0	Wash. Gen. Cat. 1860, 6135, Wash. Obs. 1872, 396, and Wash. Obs. 1874, 199.
18	14 50 7·83	2·62	118 40 30·8	10·9	,, ,,

Windsor, N. S. Wales:
1881, *December* 22.